

2002 Real Property Assessment Manual and Guidelines Amended Pages

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Introduction

A general reassessment of all real property within the state is required as of March 1, 2002. The next general reassessment is statutorily required for March 1, 2006. This assessment manual contains the rules for assessing real property located in Indiana for the March 1, 2002, through March 1, 2005, assessment dates. It includes a number of changes from prior reassessment manuals issued by the State Board of Tax Commissioners.

The foundations upon which this assessment manual is built are established by the Indiana Constitution and the statutes of the Indiana General Assembly. Article X, Section 1 of the Indiana Constitution requires:

a system of assessment and taxation characterized by uniformity, equality and just valuation based on property wealth, but the Clause does not require absolute and precise exactitude as to the uniformity and equality of each individual assessment.¹

IC 6-1.1-31-6(c) and 6-1.1-31-7(d) further define True Tax Value: "True tax value does not mean fair market value." It is within this structure, and that required by the courts, that True Tax Value, as expressed in this manual, seeks to operate. IC 6-1.1-31-6(c) goes on to state that: "True tax value is the value determined under the rules of the State Board of Tax Commissioners." Given that the courts and statutes do not fully define true tax value, it is incumbent upon the State Board of Tax Commissioners to develop a definition that satisfies both statutory and judicial requirements by providing a definition that measures property wealth, but is not fair market value.

True tax value, therefore, is defined as:

The market value-in-use of a property for its current use, as reflected by the utility received by the owner or a similar user, from the property.

It is this definition, therefore, that sets the standard upon which assessments may be judged. Although this assessment manual provides general rules for assessing property, situations may arise that are not explained or that result in assessments that may be inconsistent with this definition. In those cases the assessor shall be expected to adjust the assessment to comply with this definition and may ask the State Board to consider additional factors, pursuant to IC 6-1.1-31-5, to accomplish this adjustment.

True tax value may be thought of as the ask price of property by its owner, because this value more clearly represents the utility obtained from the property, and the ask price represents how much utility must be replaced to induce the owner to abandon the property. In markets in which sales are not representative of utilities, either because the utility derived is higher than indicated sale prices, or in markets where owners are motivated by non-market factors such as the maintenance of a farming lifestyle even in the face of a higher use value for some other purpose, true tax value will not equal value in exchange. In markets where there are regular exchanges, so that ask and offer prices converge, true tax value will equal value in exchange, except for owner occupied housing units, where true tax value will be equal to the value in exchange.

¹ *State Board of Tax Commissioners v. Town of St. John*, 702 N.E.2d 1034, 1040 (Ind. 1998).

To satisfy the requirements imposed by the courts and the legislature, True Tax Value uses fair market value data of property wealth, but derives values that are not based strictly on fair market value. Instead, True Tax Value gives recognition to two principles of the theory of wealth and value that fair market value does not adequately capture: (1) the concept of value-in-use; and (2) the recognition that "wealth" at its core is not an absolute, but rather to some degree, a comparative term.

Based on the decisions provided by recent court rulings, the basis for True Tax Value outlined in this manual is value-in-use as opposed to value-in-exchange. This concept incorporates objectively verifiable data leading to a determination of property wealth. Property wealth under a value-in-use premise may or may not be the same as market value depending on the specific characteristics of the property. The following definition provides guidance for determining the True Tax Value under a value-in-use approach:

Use Value: *The value a specific property has for a specific use.*²

Traditionally, the appraisal profession has used three approaches, or three methods, in determining the value of real property. The first approach, known as the *cost approach*, estimates the value of the land as if vacant and then adds the depreciated cost new of the improvements to arrive at a total estimate of value. The second approach, known as the *sales comparison approach*, estimates the total value of the property directly by comparing it to similar, or comparable, properties that have sold in the market. The third approach, known as the *income approach*, is used for income producing properties that are typically rented. It converts an estimate of income, or rent, the property is expected to produce into value through a mathematical process known as capitalization.

All three of these approaches, when properly processed, should produce approximately the same estimate of value. Fee appraisers use all three approaches when appraising individual properties. However, assessing officials are faced with the responsibility of valuing all properties within their jurisdictions during a reassessment and often times do not have the data or time to apply all three approaches to each property. Therefore, the cost approach has historically been used in mass appraisal by assessing officials since data is available to apply it to all properties within a jurisdiction. The cost approach also lends itself to mass appraisal because it is easily adapted to computer systems.

Replacement cost is preferred as opposed to reproduction cost because replacement cost estimates the cost of a physical structure with similar utility. This estimate of cost should be closely aligned with value-in-use.

Property wealth estimated by value-in-use often approximates value-in-exchange in instances where property types are frequently exchanged and used by both buyer and seller for the same purpose. A good example of this outcome is a small neighborhood retail center that is well occupied and maintained. Property wealth under value-in-use will be different from value-in-exchange. One instance is for special-purpose industrial properties where value-in-exchange occurs only infrequently and under special circumstances.

Special-purpose properties often have very different property wealth estimates under a value-in-use scenario as opposed to value-in-exchange due to the motivations of the parties involved.

² Appraisal Institute, *The Dictionary of Real Estate Appraisal*, pg. 383. (1993)

This difference can be expressed as the difference between the bid and ask price for a special-purpose asset. The bid price is what a buyer is willing to pay to purchase an asset, the ask price is what the seller is willing to take in exchange for an asset. Typically, the bid price will initially be lower than the ask price, some negotiation will occur, and when the two are equal an exchange will take place.

In assessment, we are estimating how this negotiation will be resolved as of January 1, 1999. For property types that are frequently traded, the bid and ask price are likely to be fairly similar. For properties that are infrequently exchanged, or that are only exchanged under extraordinary circumstances, this difference between the bid and ask price is likely to be wider and more difficult to reconcile.

A seller of a special-purpose industrial property would accept nothing less than a price equal to the utility being gained from the property. For properties currently in use, this amount would be termed the value-in-use (i.e. the ask price). A buyer of a special-purpose property would initially bid no more than necessary to motivate the seller. A buyer would likely start with a low bid such as the liquidation value of the property. Assuming that the buyer intends to use the property for its current use, the buyer will likely adjust the bid price until a transaction is completed. Since the seller has no motivation to sell at anything less than the value-in-use for a special-purpose property, the ask price becomes the benchmark for a likely transaction under a value-in-use scenario. In the case in which the seller adjusts its opening price and actually consummates a transaction with the buyer at an agreed price, the bid and ask prices coincide and reflect the value-in-use of the property.

As noted previously, some types of fair market value data or valuation methods may be used to calculate True Tax Values, but these data and methods may be used only as described in these rules. In general, such methods will be applicable only if they rely on data that was readily available to the assessor at the time the assessment was made and they represent a reliable indicator of value based on the value-in-use premise or except as the Board may provide in its equalization rule. Fee appraisals of the subject property, or comparable sales approaches, that estimate the market value of improvements may be considered in determining true tax value if they are based on the value-in-use standard and utilize market information that is relevant to the subject property under the assumption that a potential purchaser would continue the existing use of the subject property. Whether a comparable sales approach or an income approach is a reliable indicator of the true tax value of commercial and industrial property under the value-in-use standard must be determined on a case-by-case basis. If the property is a single-use or specialty property and there is no market for the property, the comparable sales approach may be inapplicable depending on the facts. Single-use or specialty property for this purpose means property which is so uniquely designed and adapted for the business conducted upon it or the use made of it and which cannot be converted to other uses without the expenditure of significant sums of money. When others could feasibly use the property for the same general commercial or industrial purpose, e.g. light manufacturing, general retail, or other use type defined in this manual, comparable sales data may be employed to determine true tax value if the data is reliable, the sampled property sales are reasonably comparable based on accepted appraisal standards, and the data was reasonably available to the assessor at the time the assessment was made.

For the purposes of this provision, "readily available" means information reasonably imputed to be information that the assessor should know is relative to the assessment, that the assessor is aware exists, and could have been accessed with reasonable ease or that the assessor could have availed himself/herself of with reasonable ease. Likewise, any information held,

Median	■ A measure of central tendency. When the number of items is odd, the value of the middle item when the items are arrayed by size. When the number of items is even, the arithmetic average of the two central items when the items are similarly arranged. Thus, a positional average that is not affected by the size of extreme values.
Mode	■ The most frequently occurring observation in an array.
Model	■ (1) A representation of how something works. (2) For purposes of appraisal, a representation (in words or an equation) that explains the relationship between value or estimated sale price and variables representing factors of supply and demand.
Property Wealth	▲ The abundance of economic utility realized from property rights. A relative concept that reflects the difference between the property owned by the taxpayer and the minimum amount necessary to sustain life.
Ratio Study	▲ A study of the relationship between appraised or assessed values and market values . Indicators of market values may be either sales (sales ratio study) or independent “expert” appraisals (appraisal ratio study). Of common interest in ratio studies are the level uniformity of the appraisal or assessments .
Reassessment	■ The re-listing and reappraisal of all property in a jurisdiction or portion thereof. Also called reappraisal or revaluation.
Replacement Cost	■ The cost, including material, labor, and overhead, which would be incurred in constructing an improvement having the same utility to its owner as a subject improvement.
Reproduction Cost	■ The cost of constructing a new improvement, reasonably identical with the subject improvement, using the same materials, construction standards, design, and quality of workmanship.
Sale Price	■ Amount paid for an item.
Sales Ratio Study	■ A ratio study that uses sales prices as a proxy for market values.
Single-Property Appraisal	■ Appraisal of properties one at a time. Contrasts with Mass Appraisal .
Statistics	■ (1) Numerical descriptions calculated from a sample. For example, the median , mean , or coefficient of dispersion . Statistics are used to estimate corresponding measures,

termed parameters, for the population. (2) The science of studying numerical data systematically and of presenting the results usefully.

Subject Property	■The property being appraised.
Taxable Value	■The appraised value minus all applicable exemptions, deductions, and abatements. Property taxes are levied on taxable value. ▲In Indiana, the taxable value is referred to as net assessed value.
True Tax Value	▲ The market value in use of a property for its current use, as reflected by the utility received by the owner or a similar user, from the property.
Use Value	See Value-in-Use ; synonymous with Market Value-in-Use .
Valuation Date	■The date as of which a property's value is estimated. ▲The date as of which the true tax value of the property is estimated. In the case of the 2002 general reassessment, this would be January 1, 1999.
Value-in-Use	■The value of property for a specified use. The concept that holds value to be inherent in property itself; that is, the value is based on the ability of the asset to produce revenue or utility through ownership. ▲The value a specific property has for a specific use. Synonymous with Use Value and Market Value-in-Use .
Wealth	See Property Wealth .

Assessment Ratio Studies and Equalization

The accuracy and uniformity of the assessments produced by any mass appraisal method shall be measured by an assessment ratio study. Should the results of the study show the assessments to be inaccurate and/or non-uniform, equalization shall be the remedy.

Assessment Ratio Studies

A ratio study is a measure of the performance of a mass appraisal method. It compares the assessing official's estimate of value with objectively verifiable data. The objectively verifiable data used in the comparison comes from selling prices and single-property appraisals prepared independent of the assessment process. Sales based ratio studies are preferred because they are less expensive and are more objective than independent single property appraisals.

The ratios used in assessment ratio studies are computed on individual properties by dividing the assessing official's estimate of assessed value, for the property by the sale price, or by an appraised value developed by single-property appraisal methods. If sale price was used, the ratio would be known as the assessment-sale price ratio. If appraised value was used, the ratio would be known as the assessment-appraisal ratio. The formula for an assessment-sale price ratio follows:

$$A/S = (AV) \div SP$$

Where: A/S = Assessment-sale Price Ratio

AV = Assessed Value

SP = Sale Price

*(This variable is excluded for non-owner occupied property)

For example, assume a property sold for \$104,000 and was assessed for \$79,000. Further assume the shelter allowance for the county in which the property is located is \$18,000. Applying the above formula would yield the following:

$$A/S = (\$79,000) \div \$104,000$$

$$A/S = 0.7596 \text{ Rounded to } 0.76$$

In this example, the assessment-sale price ratio would be 0.76, which is the equivalent of seventy-six percent (76%). In other words, this property is assessed at seventy-six percent (76%) of the value it should be assessed. Ideally, all assessment ratios should be at one hundred percent (100%) in order to be considered accurate.

The ratio study uses assessment ratios as the basic data to measure the performance of a mass appraisal method. It statistically measures the accuracy and uniformity of the assessments produced by the mass appraisal method. Accuracy is measured through the application of statistics by measures of central tendency. Uniformity is measured through the application of statistics by measures of relative dispersion.

The statistical measure of central tendency most often used in assessment ratio studies is the median. The statistical measure of relative dispersion most often used is the coefficient of

dispersion about the median. Both of these measures are defined in the definitions section of this rule.

The median assessment ratio reveals the “average” level at which property is assessed. If, for example, the median assessment ratio for single-family homes in a particular neighborhood is 0.86 (86%) the conclusion can be drawn that, on the average, all homes are assessed at 86% of their value. If the assessment level is supposed to be 100% for this neighborhood, then the ratio study has shown that single-family homes are underassessed and, therefore, not accurately assessed. Ideally, the median should be at 1.00 (100%). This means all properties are, on the average, accurately assessed. But since mass appraisal methods produce only estimates of value and are not an exact science, the actual median assessment ratio may vary from the ideal.

The coefficient of dispersion reveals the “average” difference between individual assessment ratios and the median assessment ratio. It demonstrates the typical amount of deviation the individual assessment ratios have from the median. If, for example, the coefficient of dispersion about the median ratio for single-family homes in a particular neighborhood is 0.18 (18%) the conclusion can be drawn that the individual assessment ratios deviate, on the average, plus or minus 18% from the median assessment ratio. Ideally, the coefficient of dispersion should be at 0 (0%). This means all properties are assessed at the level shown by the median and, therefore, no deviation is present. But, like the median assessment ratio, the actual coefficient of dispersion may vary from the ideal.

Equalization

Standards for evaluating the accuracy and uniformity of mass appraisal methods have been developed by the assessing community. These standards state the overall level of assessment, as determined by the median assessment ratio, should be within ten percent (10%) of the legal level. In Indiana, this means the median assessment ratio within a jurisdiction should fall between 0.90 (90%) and 1.10 (110%) in order to be considered accurate. This standard of ten percent (10%) on either side of the value provides a reasonable and constructive range for measuring mass appraisal methods.

These standards also state the coefficient of dispersion about the median should be at 0.15 (15%) or less for single-family residences and 0.20 (20%) or less for other classes of property. If the coefficient of dispersion is at, or below, these standards, then the mass appraisal method has produced uniform assessments. However, if the coefficient of dispersion is above these standards, then the mass appraisal method has produced non-uniform assessments.

Whenever inaccurate and/or non-uniform assessments are present, the county assessor and the State Board of Tax Commissioners are required to equalize assessments. Equalization of assessments is the process of ensuring all property is, on the average, accurately and uniformly assessed. The equalization process can be accomplished in two ways; through the application of factors to correct the accuracy and through reassessment to correct non-uniformity.

The following decision chart shows when each of the equalization procedures are appropriate:

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Median Assessment Ratio	Coefficient of Dispersion	Action Required
Accurate (0.90 to 1.10)	Uniform (≤ 0.15)	Nothing
Accurate (0.90 to 1.10)	Non-uniform	Reassess
Inaccurate	Uniform (≤ 0.15)	Apply Factors
Inaccurate	Non-uniform	Reassess

More details on assessment ratio studies and equalization will be found in the equalization rule, 50 IAC 14 (to be promulgated in 2001).

Appendix A – SBTC Property Class Codes

Table A-1. Property Class Codes

Code	Class of Property
1	Agricultural taxable land and improvements used primarily for agricultural purposes
2	The legal description is being valued for severed mineral rights at a flat value of sixty dollars (\$60) per acre
3	Industrial taxable land and improvements used primarily for manufacturing, processing, or refining foods and materials
4	Commercial taxable land and improvements used for general commercial and recreational purposes
5	Residential taxable land and improvements used primarily for residential purposes
6	Exempt property
8	Taxable land and improvements owned by a public utility company

Table A-2. Property Subclass Codes

Class Code 1 Agricultural taxable land and improvements used primarily for agricultural purposes							
00	Vacant land	03	Dairy farm	07	Tobacco farm	11	Beef farm
01	Cash grain/general farm	04	Poultry farm	08	Nursery	20	Timber
02	Livestock other than dairy and poultry	05	Fruit & nut farm	09	Greenhouses	99	Other agricultural use
		06	Vegetable farm	10	Hog farm		
<hr/>							
Class Code 2 The legal description is being valued for severed mineral rights at a flat value of sixty dollars (\$60) per acre							
00	Severed mineral rights						
<hr/>							
Class Code 3 Industrial taxable land and improvements used primarily for manufacturing, processing, or refining foods and materials							
00	Vacant land	30	Medium manufacturing and assembly	46	Research and development facility	70	Small shop
10	Food and drink processing facility					80	Mine or quarry
20	Foundries and heavy manufacturing	40	Light manufacturing and assembly	50	Industrial warehouse	85	Landfill
						90	Grain elevator
		45	Industrial office	60	Industrial truck terminal	99	Other industrial structure

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Class Code 4 Commercial taxable land and improvements used for general commercial and recreational purposes

00 Vacant land	25 Neighborhood shopping center (Strip center)	44 Full service banks	60 Theater
01 4 to 19 family apartments	26 Community shopping center	45 Savings and loans	61 Drive-in theater
02 20 to 39 family apartments	27 Regional shopping center	47 Office building (1 or 2 story)	62 Golf range or miniature course
03 40 or more family apartments	28 Convenience market	48 Office building (3 stories or more, walkup)	63 Golf course or country club
10 Motel or tourist cabins	29 Other retail structures	49 Office building (3 stories or more, elevator)	64 Bowling alley
11 Hotel	30 Restaurant, cafeteria, or bar	50 Convenience market with gasoline sales	65 Lodge hall
12 Nursing home and private hospital	31 Franchise-type restaurant	51 Convenience market / franchise-type restaurant with gasoline sales	66 Amusement park
15 Mobile home park	35 Drive-in restaurant	52 Service station	67 Health club
16 Commercial camp ground	39 Other food service	53 Car wash	68 Ice rink
19 Other commercial housing	40 Dry clean plant or laundry	54 Auto sales and service	69 Riverboat gaming resort
20 Small detached retail of less than 10,000 square feet	41 Funeral home	55 Commercial garage	80 Commercial warehouse
21 Supermarket	42 Medical clinic or offices	56 Parking lot or structure	81 Commercial mini-warehouse
22 Discount and junior department store	43 Drive-up/walk-up bank only		82 Commercial truck terminal
24 Full line department store			90 Marine service facility
			95 Marina
			99 Other commercial structures

Class Code 5 Residential taxable land and improvements used primarily for residential purposes

00 Vacant platted lot	15 One family dwelling on unplatted land of 40 or more acres	32 Three family dwelling on unplatted land of 10 to 19.99 acres	44 Mobile or manufactured home on unplatted land of 30 to 39.99 acres
01 Vacant unplatted land of 0 to 9.99 acres	20 Two family dwelling on a platted lot	33 Three family dwelling on unplatted land of 20 to 29.99 acres	45 Mobile or manufactured home on unplatted land of 40 or more acres
02 Vacant unplatted land of 10 to 19.99 acres	21 Two family dwelling on unplatted land of 0 to 9.99 acres	34 Three family dwelling on unplatted land of 30 to 39.99 acres	50 Condominium unit on a platted lot
03 Vacant unplatted land of 20 to 29.99 acres	22 Two family dwelling on unplatted land of 10 to 19.99 acres	35 Three family dwelling on unplatted land of 40 or more acres	51 Condominium unit on unplatted land of 0 to 9.99 acres
04 Vacant unplatted land of 30 to 39.99 acres	23 Two family dwelling on unplatted land of 20 to 29.99 acres	40 Mobile or manufactured home on a platted lot	52 Condominium unit on unplatted land of 10 to 19.99 acres
05 Vacant unplatted land of 40 or more acres			
10 One family dwelling on a platted lot			

Continued on next page.

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Class Code 5 *continued*

11	One family dwelling on unplatted land of 0 to 9.99 acres	24	Two family dwelling on unplatted land of 30 to 39.99 acres	41	Mobile or manufactured home on unplatted land of 0 to 9.99 acres	53	Condominium unit on unplatted land of 20 to 29.99 acres
12	One family dwelling on unplatted land of 10 to 19.99 acres	25	Two family dwelling on unplatted land of 40 or more acres	42	Mobile or manufactured home on unplatted land of 10 to 19.99 acres	54	Condominium unit on unplatted land of 30 to 39.99 acres
13	One family dwelling on unplatted land of 20 to 29.99 acres	30	Three family dwelling on a platted lot	43	Mobile or manufactured home on unplatted land of 20 to 29.99 acres	55	Condominium unit on unplatted land of 40 or more acres
14	One family dwelling on unplatted land of 30 to 39.99 acres	31	Three family dwelling on unplatted land of 0 to 9.99 acres			99	Other residential structures

Class Code 6 Exempt property

00	Exempt property owned by the United States of America	40	Exempt property owned by a municipality	80	Exempt property owned by a charitable organization that is granted an exemption	86	Church, chapel, mosque, synagogue, tabernacle, or temple that is granted an exemption
10	Exempt property owned by the State of Indiana	50	Exempt property owned by a board of education			90	Exempt property owned by a cemetery organization that is granted an exemption
20	Exempt property owned by a county	60	Exempt property owned by a park district	85	Exempt property owned by a religious organization that is granted an exemption		
30	Exempt property owned by a township	70	Exempt property owned by a private academy or college			99	Other exempt property owned by an organization that is granted an exemption

Class Code 8 Taxable land and improvements owned by a public utility company

00	Locally assessed vacant utility land	30	Locally assessed property owned by a pipeline company	50	Locally assessed property owned by a sewage company	61	State assessed property owned by a telephone, telegraph, or cable company that constitutes a part of any right-of-way of the distribution system
10	Locally assessed property owned by a bus company	31	State assessed property owned by a pipeline company that constitutes a part of any right-of-way of the distribution system	51	State assessed property owned by a sewage company that constitutes a part of any right-of-way of the collection system	70	Locally assessed property owned by a water distribution company
20	Locally assessed property owned by a light, heat, or power company	40	Locally assessed property owned by a railroad company	60	Locally assessed property owned by a telephone, telegraph, or cable company	71	State assessed property owned by a water distribution company that constitutes a part of any right-of-way of the distribution system
21	State assessed property owned by a light, heat, or power company that constitutes a part of any right-of-way of the light, heat, or power company	41	State assessed operating property owned by a railroad company				

Note: Under class code 8, subclass codes 21, 31, 41, 51, 61, and 71 have a zero value at the local level.

Appendix B – SBTC Land Type Codes

Table B-1. Land Type and Sub-type Codes

Code	Type of Land
1 Commercial and Industrial Land	
1 Primary	2 Secondary 3 Undeveloped Useable 4 Undeveloped Unuseable
2	Classified Land
3	Undeveloped Land
4	Tillable Land
5	Non-tillable Land
6	Woodland
7	Other Farmland
8 Agricultural Support Land	
1 Legal Ditch	2 Public Road 3 Utility Transmission Tower
9 Homesite	
1 Residential Excess Acres	2 Agricultural Excess Acres

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Chapter 2

Directions: Please insert the following amended pages. Please remove the pages that are designated *remove* in the “Table of Page Changes”.

To complete the “Valuation Record” sections of the Agricultural, Residential, and Commercial and Industrial Property Record Cards, and to sign and date the cards, perform these steps:

- Step 1 In the “Assessment Year” row, enter the year when the assessment is being conducted.
- Step 2 *If the assessment is being conducted as part of a general reassessment*, “Revaluation” appears in the “Reason for Change” row.
If the assessment is being conducted to change the valuation of the property for a particular reason, enter the reason for the change in the “Reason for Change” row.
- Step 3a Complete the “True Tax Value” rows (***Agricultural Property Record Card***):
- In the “Res Land” row, enter the amount recorded in the “Homesite(s) Value” cell from the “Land Data and Computations” section of the property record card.
 - In the “Res Imp” row, enter the amount recorded in the “Total Residential Improvement Value” cell from the “Summary of Residential Improvements” section of the property record card.
 - Calculate the adjusted residential land and improvement values by subtracting the amount determined in sub step c from the “Res Imp” row first, and then if any shelter allowance is remaining, subtract from the “Res Land” row.
 - In the “Adj. Res Land” and “Adj. Res Imp” rows, enter the results from sub step d. If the shelter allowance is not applicable, carry the value determined in sub step a to the “Adj. Res Land” row, and from sub step b to the “Adj. Res Imp” row.
 - In the “Ag Excess Land” row, enter the amount recorded in the “92 Ag Excess Acres” cell from the “Land Data and Computations” section of the property record card.
 - In the “Non-Res Imp” row, enter the amount recorded in the “Total Non-Residential Improvement Value” cell from the “Summary of Non-Residential Improvements” section of the property record card.
 - In the “Farm/Classified Land” row, enter the amount recorded in the “Total Farmland/Classified Land Value” cell from the “Land Data and Computations” section of the property record card.
 - Calculate the total true tax value of the property by summing the “Adj Res Land” cell, “Adj Res Imp” cell, “Ag Excess Land” cell, “Non-Res Imp” cell, and “Farm/Classified Land” cell:

- a. In the “Res Land” row, enter the amount recorded in the “Total Residential Land Value” cell from the “Land Data and Computations” section of the property record card.
- b. In the “Res Imp” row, enter the amount recorded in the “Total Residential Improvement Value” cell from the “Summary of Residential Improvements” section of the property record card.
- c. Calculate the adjusted residential land and improvement values by subtracting the amount determined in sub step c from the “Res Imp” row first.
- d. In the “Adj. Res Land” and “Adj. Res Imp” rows, enter the results from sub step d.
- e. In the “Non-Res Land” row, enter the amount recorded in the “Total Non-Residential Land Value” cell from the “Land Data and Computations” section of the property record card.
- f. In the “Non-Res Imp” row, enter the amount recorded in the “Total Non-Residential Improvement Value” cell from the “Summary of Non-Residential Improvements” section of the property record card.
- g. Calculate the total true tax value of the property by summing the “Adj Res Land” cell, “Adj Res Imp” cell, “Non-Res Land” cell, and “Non-Res Imp” cell.

Total True Tax Value	=	Adj. Res Land	+	Adj. Res Imp	+	Non-Res Land	+	Non-Res Imp
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- h. Enter the total true tax value in the “Total TTV” row.

Step 4b Complete the “Assessed Value” rows. The assessed values are 100% of the true tax values.

- i. In the “Adj Res Land” row, enter the assessed value of the property’s adjusted residential land.
- j. In the “Adj Res Imp” row, enter the assessed value of the property’s adjusted residential improvements.
- k. In the “Non-Res Land” row, enter the assessed value of the property’s non-residential land.
- l. In the “Non-Res Imp” row, enter the assessed value of the property’s non-residential improvements.
- m. Calculate the total assessed value by summing the “Adj Res Land” cell, “Adj Res Imp” cell, “Non-Res Land” cell, and “Non-Res Imp” cell:

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Chapter 3

Directions: Please insert the following amended pages. Please remove the pages that are designated *remove* in the “Table of Page Changes”.

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To determine the grade adjustment and to calculate the adjusted sub-total of the dwelling, perform the following steps:

- Step 1 Next to the “Grade and Design Factor” cell label on the property record card, enter the letter grade assigned to the dwelling. Information about determining the grade for a dwelling is provided in Appendix A.
- Step 2 In the “Grade and Design Factor” cell, enter the grade factor percentage corresponding to the dwelling’s grade. Instructions for determining the grade factor percentage for a dwelling using Schedule F are provided in the section **Assigning Grades to Dwelling Units** in Appendix A.
- Step 3 Divide the grade factor percentage corresponding to the dwelling’s grade by 100 to arrive at a multiplier.
- Step 4 Calculate the dwelling’s adjusted sub-total by multiplying the amount in the “Sub-Total” cell (entered in Task 4, Step 3) by the multiplier obtained in Step 3. Enter the result in the “Adjusted Sub-Total” cell.

Task 6—Determining and Applying the Location Cost Multiplier

The cell labeled “Location Multiplier” is used to make an adjustment to the costs found in Appendix C. Due to the fact that costs are relative to location, we have included location cost multipliers, by county, to account for these differences. The table indicating the multiplier for your county and a more detailed explanation of location cost multipliers can be found in Appendix C.

- Step 1 Locate the multiplier in Table C-1 for your county.
- Step 2 Place the multiplier from Table C-1 in the “Location Multiplier” cell on the property record card.
- Step 3 Calculate the adjustment for location by multiplying the location cost multiplier by the “Adj. Sub Total” cell.
- Step 4 Place the product of Step 3 in the “Replacement Cost” cell, rounded to the nearest \$10.

Completing the Summary of Residential Improvements Section

The “Summary of Residential Improvements” section of the property record card, shown in Figure 3-12, provides space to record information about:

- the dwelling
- a detached garage (if it is the sole garage)
- improvements to the dwelling during non-reassessment years.

The addition schedule is designed to value stick-built room additions to mobile and manufactured homes during the general reassessment and to value room additions to dwellings in the interim years between general reassessment years. Room additions added to existing dwellings before March 2, 1999, must be calculated as part of the original structure and depreciated based on the age of the main structure.

- Step 7 If the improvement being valued is less than 100% complete on the assessment date, enter the percentage complete in the “% Comp” cell. Information on percentage completion can be found in Appendix C.
- Step 8 Calculate the neighborhood factor and enter the result in the “Nhbd Factor” cell. Information on neighborhood factors can be found in Appendix B.
- Step 9 The improvement value is the remainder value of the dwelling, adjusted for % complete and neighborhood factor (if necessary), rounded to the nearest \$100. Enter this amount in the “Improvement Value” column on the property record card.
- Step 10 *If the property has a detached garage (secondary to an attached garage), yard structures, or other improvements to describe, follow the instructions in Chapter 5 to complete the “Summary of Non-Residential Improvements” section.*

If the property has no other improvements to describe, sum the entries in the “Improvement Value” column and enter the total in the “Total Residential Improvement Value” cell.

Example: The example illustrated in Figure 3-13 is a one story frame, single family dwelling with a brick front 4 feet high across the front. The dwelling contains 1,152 square feet of finished living area on the first floor with a full basement underneath. The basement has a finished area of 480 square feet that has a finished ceiling, paneled walls, and a carpeted floor. This area is not finished in the same quality as the first floor. The dwelling has central heat and air conditioning. There is a living room, kitchen, three bedrooms, one full bathroom, and a one-half bath on the main level.

Solar Heating and Cooling System Types

Table 3-13 lists the types of solar heating and cooling systems.

Table 3-13. Solar Heating and Cooling Systems

This type	Indicates
Type A	A solar collection unit of thirty (30) square feet, a storage medium consisting of either a one hundred twenty (120) gallon tank for a liquid system or a storage vessel with a rock surface area of four hundred (400) square feet for an air system, and an elaborate contractor installed distribution unit that requires minimum occupant involvement on a day-to-day basis. This type of system virtually runs itself through the use of sophisticated monitoring equipment. This type of system is normally designed for and incorporated into the structure at the time of construction.
Type B	A solar collection unit of twenty-five (25) square feet, a storage medium consisting of either an eighty (80) gallon tank for a liquid system or a storage vessel with a rock surface area of three hundred (300) square feet for an air system, and a contractor installed distribution unit that requires limited occupant involvement in the day-to-day operation of the system.
Type C	A solar collection unit of twenty (20) square feet, a storage medium consisting of either a sixty (60) gallon tank for a liquid system or a storage vessel with a rock surface area of two hundred (200) square feet for an air system, and a contractor installed distribution unit that relies on the occupant to make internal adjustments within the system during the day-to-day operation of the system.
Type D	A homemade solar collection unit of less than twenty (20) square feet and a storage medium of either a forty (40) gallon tank for a liquid system or a storage vessel with a rock surface area of two hundred (200) square feet or less for an air system. The Type D system uses the structure's existing base heating and cooling system as the distribution unit for the system. The Type D distribution unit's cost included in the cost schedules reflect the additional cost incurred to hook-up the solar portion of the system to the base heating system included in the structure's calculation of replacement cost.

Note: Data for geothermal heating and cooling systems used in commercial structures must be collected and priced in the same manner as comparable residential systems.

Pricing Geothermal Systems

The cost schedules for pricing geothermal heating and cooling systems in Appendix C are formatted by type of system, tonnage rating of the system, and whether the system maintains a separate distribution system.

The correct system pricing is obtained by selecting the geothermal system type as either horizontal closed loop, vertical closed loop, open discharge open loop, or return well open loop, selecting the system's rated tonnage size, and selecting the appropriate base rate (adjusted for location) from either the "w/ distribution" column or the "w/o distribution" column.

Depreciating Geothermal Systems

Depreciating Residential Geothermal Systems

Use the Residential Dwelling Depreciation Table for the appropriate grade found in Appendix B to adjust the replacement cost of geothermal heating and cooling systems. These depreciation tables rely on the variables of age and condition.

The age of the system will be unique for each separate system.

- Age is determined by finding the difference between the year of construction of the geothermal system and the depreciation date as defined earlier in this section.
- Condition is the same as the dwelling it serves.

Depreciating Commercial Geothermal Systems

Use Chart 3 found in Appendix F to adjust the replacement cost of a commercial geothermal heating and cooling system. This table combines age and condition to determine the normal depreciation percentage for the system. The condition ratings and age variables of the system are determined in the same manner as for general geothermal heating and cooling systems, described earlier.

“2002 Guidelines”

Chapter 4

Directions: Please insert the following amended pages. Please remove the pages that are designated *remove* in the “Table of Page Changes”.

Completing the Summary of Residential Improvements Section

The valuation of mobile and manufactured homes is recorded in the “Summary of Residential Improvements” section of the property record card, shown in Figure 4-5, instead of in the replacement cost pricing ladder. Use the section to itemize the following structures:

- the mobile or manufactured home
- the basement
- each manufacturer-designed room addition
- each stick-built room addition, which is a room addition that is built on site by conventional means
- each exterior feature
- solar and geothermal heating and cooling systems.

Each row corresponds to one particular structure. The improvement value of all of the structures is totaled at the bottom of the table.

Note: If the property has more structures than there are rows in this section of the property record card, use an additional card (or cards) to describe those structures.

The steps for completing the property record card for mobile or manufactured home structures are grouped into the following tasks, described in the sections below:

- Task 1—Record information about the structure.
- Task 2—Determine the replacement cost for the structure.
- Task 3—Calculate the remainder value of the structure.
- Task 4—Calculate the improvement value of the structure.
- Task 5—After performing Task 1 through Task 4 for each structure, calculate the total residential improvement value for the property.

Note: Instructions for completing the “Summary of Non-Residential Improvements” section for residential and agricultural yard structures are provided in Chapter 5.

Note: Mobile/Manufactured homes are not adjusted for location by a location cost multiplier. Any other site built improvement should be adjusted for location by a location cost multiplier.

“2002 Guidelines”

Chapter 5

Directions: Please insert the following amended pages. Please remove the pages that are designated *remove* in the “Table of Page Changes”.

To calculate the improvement value of the structure, perform these steps:

- Step 1 *If abnormal obsolescence depreciation applies to the structure*, divide the dollar amount of abnormal obsolescence by the “Remainder Value” to get an abnormal obsolescence depreciation percentage. Enter this percentage in the “Abnorm Obs” Column of the property record card.

Note:

This column can also be utilized to make adjustments for improvements less than 100% complete. Be sure to indicate what you have done in the memorandum section.

- Step 3 Calculate the neighborhood factor and enter the result in the “Nhbd Factor” cell. Information on neighborhood factors can be found in Appendix B.
- Step 4 The improvement value is the remainder value of the improvement, adjusted for % complete, abnormal obsolescence and neighborhood factor (if necessary), rounded to the nearest \$100. Enter this amount in the “Improvement Value” column on the property record card.

Example: The remainder value of a structure is \$3,850. Assuming the structure is 100% complete, suffers no abnormal obsolescence and the neighborhood factor is 1.00, the improvement value is \$3,900.

Task 6—Calculating the Total Non-Residential Improvement Value

Calculate the improvement value for each structure by performing Task 1 through Task 5 for each structure. If you run out of rows in the “Summary of Non-Residential Improvements” section of the property record card, use an additional card (or cards).

To calculate the total non-residential improvement value for the property, perform these steps:

- Step 1 *If you used **only one** property record card to complete the “Summary of Non-Residential Improvements” for the property*, sum the entries in the “Improvement Value” column and enter the total in the “Total Non-Residential Improvement Value” cell.

*If you used **more than one** property record card to complete the “Summary of Non-Residential Improvements” for the property*, on each card except Card 001, sum the entries in the “Improvement Value” column and enter the total in the “Total Non-Residential Improvement Value” cell.

- Step 2 Sum the entries in the “Total Non-Residential Improvement Value” cell of all of the property record card except Card 001. Enter the total in the “Supplemental Card Non-Residential Improvement Total” cell on Card 001.
- Step 3 On Card 001, sum the entries in the “Improvement Value” column, including the entry in the “Supplemental Card Non-Residential

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Appendix A

Directions: Please insert the following amended pages. Please remove the pages that are designated *remove* in the “Table of Page Changes”.

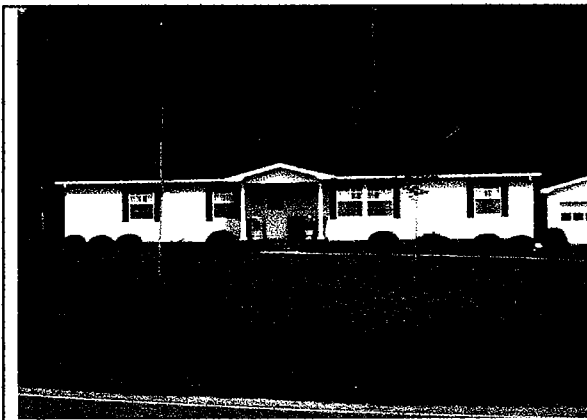
Service	"AAA" Grade	"AA" Grade	"A" Grade	"B" Grade	"C" Grade	"D" Grade	"E" Grade
	200 amp	200 amp	200 amp	100 or 200 amp	100 amp	60 or 100 amp	60 amp
Wiring Outlets	Conduit	Conduit	Romex cable	Romex cable	Romex cable	Romex cable	Romex cable
	Abundant outlets that are well-positioned	Abundant outlets that are well-positioned	Abundant outlets	Abundant outlets	Adequate outlets	Adequate outlets	Few outlets
Fixtures	Very finest quality; custom light treatments; High value chandeliers throughout	Best quality; under counter and cabinetry lighting High value chandelier	High grade fixtures	Good grade fixtures	Average grade fixtures	Average or inexpensive fixtures	Inexpensive fixtures
Heating							
Equipment	Large capacity central forced air or steam; may include more than one heating plant; insulated ductwork or piping	Large capacity central forced air or steam; may include more than one heating plant; insulated ductwork or piping	Central forced air or steam	Central forced air or steam	Central forced air	Central forced air	Central forced air or space heaters
Thermostat	Zoned	Zoned	Zoned	Central	Central	Central	Central
Plumbing							
Piping	Copper or iron	Copper or iron	Copper or iron	Copper or iron	Copper, iron, or plastic	Plastic	Plastic
Kitchen Fixtures	Very finest quality porcelain or stainless steel; multiple sinks; very finest quality faucets	Best quality porcelain or stainless steel; multiple sinks; best quality faucets	High quality porcelain or stainless steel sink; high quality faucets	Better quality porcelain or stainless steel sink; better quality faucets	Average quality porcelain or stainless steel sink; average quality faucets	Stainless steel sink; average quality faucets	low quality pedestal sink or vanity; low quality faucets
Bathroom Fixtures	Very finest quality tiled shower stall; sunken tub; jacuzzi; bidet, vanities or pedestal sinks	Best quality tiled shower stall; sunken tub; jacuzzi; bidet, vanities or pedestal sinks	High quality pedestal sink or vanity; high quality faucets and fixtures	Good quality pedestal sink or vanity; good quality faucets and fixtures	Average quality vanity; average quality faucets and fixtures	Average quality vanity; average quality faucets and fixtures	Wall hung lavatory; average quality faucets and fixtures
Vanity Tops	Very finest quality marble, ceramic, or equal	Best quality marble, ceramic, or equal	Marble, ceramic, high quality plastic laminates	Cultured marble, ceramic, better quality plastic laminates	Cultured marble, ceramic, average quality plastic laminates	Plastic laminates	---



"Custom" Grade Manufactured Home



"Custom" Grade Manufactured Home



"Custom" Grade Manufactured Home



"Custom" Grade Manufactured Home



"Custom" Grade Manufactured Home

“2002 Guidelines”

Appendix B

Directions: Please insert the following amended pages. Please remove the pages that are designated *remove* in the “Table of Page Changes”.

Depreciation Estimates

In estimating the cost new of the improvements, the assessor has determined the upper limit of value the improvements will have on the valuation date. Depreciation is defined as the loss in value, from this upper limit, that the improvements on a parcel of real property suffer from a variety of causes. Those causes can be physical causes, functional causes, and external causes. These causes can operate individually or they can operate in combination with each other to cause a loss in value.

The **physical causes** refer to the wear and tear that an improvement suffers from its regular use. It may also be caused by abuse, the impact of the weather, and insect infestation such as termites. This type of loss in value is called physical deterioration.

Functional loss in value is caused by some type of inutility within the structure and materials or design that diminishes the ability of the structure to perform the function for which it was constructed and/or might be used. This type of loss in value is called functional obsolescence.

External obsolescence typically is impairment in the utility or salability of the structure due to negative influences that occur outside the property.

Depreciation may begin at the moment the structure is under construction and, in some cases though not often, a structure may suffer from substantial depreciation on the day that it is first occupied. These kinds of losses in value tend to come from poor design, poor construction, failure of the owner or contractor to consider such things as sub-soil conditions, suitability of building materials, design considerations, or other similar situations.

There is probably no issue that is less understood than the application of depreciation in the valuation of a structure. We tend to hear about depreciation in a wide variety of areas including accounting, income tax, public utility regulation, and of course valuation purposes. The appropriate calculation of depreciation remains as one of the single most important parts of arriving at a fair and equitable valuation for real property taxation purposes.

Because we are using the concept of replacement cost new minus depreciation derived from the market, much of the *functional obsolescence* is taken care of. *External obsolescence* will be accounted for through the **neighborhood factor**.

The determination of depreciation must consider:

- a. The **chronological age** of the structure
- b. The **effective age** of the structure
- c. The **quality** of the materials, workmanship, and design used in the construction of the structure
- d. The **condition rating** of the structure
- e. The **neighborhood factor**

Each of these factors, working in concert, determines the loss of value that a structure suffers.

Silos, masonry and steel	20 year life expectancy
Silos, trench and bunker	20 year life expectancy
Slurry tanks	20 year life expectancy
Solar and Geothermal units	Residential Depreciation Schedule (by <i>Grade</i>)
Stables	30 year life expectancy
Swimming pools and pool enclosures, in-ground	In-ground Swimming Pool Table
Swimming pools, above-ground	Above-ground Swimming Pool Table
Tennis courts	30 year life expectancy
Tobacco barns	30 year life expectancy

Using the Swimming Pool Depreciation Tables

There are two (2) swimming pool depreciation tables. In order to use these tables you must first determine the following:

- which table to use
- the age of the swimming pool

Swimming pools that are designed and manufactured to stand alone without side support from surrounding ground are classified as above ground and are depreciated using the **Above Ground Swimming Pool Depreciation Table**. Swimming pools with the water level at or below the surrounding earth grade are depreciated using the **In-Ground Swimming Pool and Pool Enclosure Depreciation Table**.

The actual age of the swimming pool on the date of the general reassessment is to be used. Should the pool show excessive deferred maintenance for its actual age, an effective age of six (6) years less than the pool's construction age should be used to determine depreciation.

Note: Swimming pools are only depreciated during the general reassessment year; no further depreciation is to be applied until the next general reassessment.

To determine the total depreciation percentage for a swimming pool, perform the following steps:

- Step 1: In the "Age" column of the appropriate depreciation table, locate the row corresponding to the swimming pool's actual age or effective age.
- Step 2: Find the intersection of the selected row (age) and the "Depreciation" column. This number is the total depreciation percentage for the swimming pool.

Example: An in-ground swimming pool is nine (9) years old. The In-Ground Swimming Pool and Pool Enclosure Depreciation Table indicates the total depreciation percentage for the swimming pool is twenty-five percent (25%).

Note: Instructions for recording the total depreciation percentage on the property record card, converting this percentage to a multiplier, and using this multiplier to calculate the remainder value of a swimming pool are provided in the section **Task 4 - Calculating the Remainder Value** in Chapter 5.

Table B-12.—ABOVE GROUND SWIMMING POOL
DEPRECIATION TABLE

Age	Depreciation
1	8
2	16
3	24
4	32
5	40
6	48
7	56
8	64
9	72
10	80
Over	80-85

Physical and functional condition may contribute to an acceleration of the pool's age.

Table B-13.—SWIMMING POOL and POOL ENCLOSURE
DEPRECIATION TABLE

Price swimming pool from standard schedule and depreciate on the basis of a twenty-five (25) year life expectancy, as follows:

Age	Depreciation
1-2	5
3-4	10
5-6	15
7-8	20
9	25
10	30
11-12	35
13-14	40
15-16	50
17-18	55
19-20	60
21-22	65
23-25	70
Over 25	75-85

Physical and functional condition may contribute to an acceleration of the pool's age.

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Appendix C

Directions: Please insert the following amended pages. Please remove the pages that are designated *remove* in the “Table of Page Changes”.

SCHEDULE G.1 (continued)**Residential Yard Improvements****Swimming Pool Enclosures**

Cost represents average cost ranges per square floor of complete shell - type enclosures or buildings excluding swimming pools and aprons.

Swimming pool enclosure depreciation:

Use Swimming Pool and Pool Enclosure Depreciation Table

Type 1 Unfinished - none of the following items are finished: floor, ceiling or walls.

Type 2 Semifinished - one (1) or two (2) of the following are finished in a similar quality as the dwelling: floor, ceiling or walls.

Type 3 Finished - all of the following items: floors, ceiling and walls are finished commensurate with the quality of the dwelling.

Frame (or equal), per square foot, average quality

Area	Type - 1	Type - 2	Type - 3
100	51.50	64.55	80.50
200	39.00	48.15	59.40
300	33.60	41.40	50.95
400	30.40	37.50	46.20
500	28.25	34.90	43.05
600	26.80	33.35	41.35
700	25.65	32.10	40.05
800	24.70	31.15	38.95
900	23.95	30.30	38.10
1000	23.30	29.60	37.35
1200	22.25	28.50	36.15
1300	21.80	28.05	35.65
1400	21.45	27.65	35.20
1500	21.10	27.25	34.80
1600	20.75	26.95	34.45

Brick (or equal), per square foot, average quality

Area	Type - 1	Type - 2	Type - 3
100	68.00	81.05	97.05
200	50.65	59.85	71.10
300	43.10	50.95	60.50
400	38.65	45.75	54.45
500	35.65	42.30	50.45
600	33.55	40.10	48.10
700	31.90	38.35	46.30
800	30.55	36.95	44.80
900	29.45	35.80	43.60
1000	28.50	34.85	42.55
1200	27.00	33.25	40.90
1300	26.40	32.60	40.20
1400	25.85	32.05	39.60
1500	25.35	31.50	39.05
1600	24.90	31.05	38.60

Adjust for quality grade from Schedule F.

Bath Houses

Per square foot

Area	Frame	C.B.	Brick	Add Heating
100	47.20	47.60	65.85	1.00
200	35.85	36.30	49.05	1.00
300	31.30	31.75	42.05	1.00
400	28.70	29.15	38.00	1.00
500	27.00	27.45	35.30	1.00
600	25.75	26.20	33.35	1.00
700	25.00	25.50	32.20	1.00
800	24.25	24.70	30.95	1.00
900	23.60	24.10	29.95	1.00
1000	23.10	23.60	29.10	1.00
1100	22.65	23.15	28.40	1.00
1200	22.25	22.75	27.75	1.00

Price includes 1 - hose bib and shower

Deduct for no plumbing

680

Add per additional fixture

590

Adjust for quality grade from Schedule F.

Utility Sheds

Per square foot, average quality

Area	Fr/Mtl	C.B.	Brick/Stn
25	29.60	74.15	85.00
50	20.95	52.45	60.10
75	17.50	43.20	49.50
100	15.55	37.80	43.25
125	14.30	34.20	39.05
150	13.35	31.55	35.95
175	12.65	29.50	33.60
200	12.10	27.85	31.70
250	11.30	25.35	28.80
300	10.70	23.55	26.65
350	10.25	22.15	25.05
400	9.85	21.00	23.70
500	9.30	19.25	21.70

Adjust for quality grade from Schedule F.

Sound value range \$ 100 to \$ 800

SCHEDULE G.1 (continued)**Residential Yard Improvements****Greenhouses**

Per square foot, average quality, steel/tubular framed glass

Area	Free Standing	Attached 1 End	Lean To
50	57.10	51.35	45.60
100	46.15	42.05	38.00
150	41.35	38.05	34.70
200	38.55	35.65	32.80
250	36.65	34.05	31.50
300	35.25	32.90	30.55
350	34.15	31.95	29.80
400	33.25	31.25	29.20
500	31.95	30.10	28.30
600	30.95	29.30	27.65
800	29.60	28.15	26.70
1000	28.65	27.35	26.10

Adjust for quality grade from Schedule F.

Tennis Courts

Add per value point - \$100

Typical cost per court, 60' x 120' average quality, including fencing.

	Type		
	Clay	Sod	Asphalt
Single Court	226	228	231
Add per Multiple	178	180	182

Adjust for quality grade from Schedule F.

Stables

Per square foot, average quality

Area	Frame	C.B.	Brick
200	42.70	49.45	60.35
300	37.05	42.55	51.45
400	33.65	38.45	46.10
500	31.35	35.60	42.50
600	29.65	33.55	39.80
700	28.30	31.90	37.75
800	27.25	30.60	36.05
900	26.35	29.55	34.70
1000	25.60	28.65	33.50
1200	24.40	27.15	31.60
1400	23.45	26.05	30.15
1600	22.70	25.10	28.95
1800	22.10	24.35	27.95
2000	21.55	23.70	27.15
3000	19.75	21.50	24.30
4000	18.70	20.20	22.65

Deduct for earth floor 2.80

Add for unfinished loft 4.65

Add for masonry walls 1.05

Adjust for quality grade from Schedule F.

Note: Price pole frame construction from pole
barn table (Type - 3) in Schedule G.2

Residential - Type Solar Heating and Cooling Systems**INDEPENDENT SOLAR SYSTEM (COMPLETE) RATES**

Type	Liquid System	Air System
A	14100	16600
B	8700	10300
C	5500	6500
D	1400	1800

COMPONENT COSTS OF INDEPENDENT SOLAR SYSTEM**SOLAR COLLECTION UNITS**

Type	SF	Per Unit
A	30	1400
B	25	700
C	20	400
D	minimal	200

SOLAR STORAGE MEDIUMS

Type	Liquid Storage	
	Gallons	Per Tank
A	120	400
B	80	200
C	60	100
D	40	100

Type	Rock Storage	
	Surface SF	Per Container
A	400	2900
B	300	1800
C	200	1100
D	Under 200	500

SOLAR DISTRIBUTION UNITS

(Includes the cost of pipe loops, transfer pumps, heat exchangers, air handlers, blowers, ducts, controls and control panels associated with either a liquid or air system.)

Type	
A	12300
B	7800
C	5000
D (integrated with existing base system.)	1100

SCHEDULE G.2 (continued)**Farm Buildings and Structures****Interpolation Procedures - Type 3 Barns****Barns and Sheds (continued)****(3)-Pole Framed General Purpose Buildings**

Size	Area	All Walls		All Walls Insulated		1 Side Open		No Walls	
		14'	+/-2'	14'	+/-2'	14'	+/-2'	14'	+/-2'
60 x 100	6000	6.20	0.20	6.80	0.20	5.85	0.15	5.00	0.15
60 x 120	7200	6.15	0.20	6.65	0.20	5.70	0.15	4.90	0.15
60 x 140	8400	6.10	0.20	6.60	0.20	5.65	0.15	4.90	0.15
60 x 160	9600	6.00	0.20	6.50	0.20	5.55	0.15	4.90	0.15
60 x 180	10800	5.95	0.20	6.50	0.20	5.55	0.15	4.90	0.15
60 x 200	12000	5.95	0.20	6.45	0.20	5.50	0.15	4.90	0.15
60 x 250	15000	5.85	0.15	6.35	0.20	5.40	0.15	4.90	0.15
60 x 300	18000	5.80	0.15	6.30	0.20	5.35	0.15	4.85	0.15
80 x 40	3200	7.10	0.30	7.85	0.30	6.80	0.20	5.35	0.15
80 x 60	4800	6.50	0.20	7.15	0.30	6.20	0.20	5.20	0.15
80 x 80	6400	6.20	0.20	6.80	0.20	5.95	0.15	5.05	0.15
80 x 100	8000	6.10	0.20	6.65	0.20	5.80	0.15	5.05	0.15
80 x 120	9600	5.95	0.20	6.50	0.20	5.65	0.15	5.00	0.15
80 x 140	11200	5.85	0.15	6.45	0.20	5.55	0.15	5.00	0.15
80 x 160	12800	5.80	0.15	6.35	0.20	5.50	0.15	5.00	0.15
80 x 180	14400	5.80	0.15	6.30	0.20	5.50	0.15	4.90	0.15
80 x 200	16000	5.70	0.15	6.20	0.15	5.40	0.15	4.90	0.15
80 x 250	20000	5.65	0.15	6.15	0.15	5.35	0.15	4.90	0.15
80 x 300	24000	5.65	0.15	6.15	0.15	5.35	0.15	4.90	0.15
80 x 350	28000	5.55	0.15	6.10	0.15	5.25	0.15	4.90	0.15
80 x 400	32000	5.50	0.15	6.00	0.15	5.20	0.15	4.85	0.15
100 x 40	4000	7.10	0.30	7.85	0.30	6.80	0.20	5.40	0.15
100 x 60	6000	6.45	0.20	7.10	0.20	6.20	0.20	5.25	0.15
100 x 80	8000	6.15	0.20	6.75	0.20	5.95	0.15	5.10	0.15
100 x 100	10000	6.00	0.15	6.60	0.20	5.80	0.15	5.05	0.15
100 x 120	12000	5.85	0.15	6.45	0.15	5.65	0.15	5.05	0.15
100 x 140	14000	5.80	0.15	6.30	0.15	5.55	0.15	5.00	0.15
100 x 160	16000	5.70	0.15	6.20	0.15	5.50	0.15	5.00	0.15
100 x 180	18000	5.70	0.15	6.15	0.15	5.40	0.15	5.00	0.15
100 x 200	20000	5.65	0.15	6.15	0.15	5.40	0.15	5.00	0.15
100 x 250	25000	5.55	0.15	6.10	0.15	5.35	0.15	4.90	0.15
100 x 300	30000	5.50	0.15	6.00	0.15	5.25	0.15	4.90	0.15
100 x 350	35000	5.50	0.15	5.95	0.15	5.25	0.15	4.90	0.15
100 x 400	40000	5.40	0.15	5.85	0.15	5.20	0.05	4.85	0.15
Included for (deduct if not present):									
Stalls & other features									
Loft floor									
Plumbing									
Lighting									
Concrete floor									
Roof insulation									
Add for interior finish - shop type									
(Interior liner, heat, insulation, & up-graded lighting)									
Add for interior finish office area									
(Wall and ceiling finish, minimal ptns and floor covering)									
Add for milk parlor & milk houses-Type-3									
Add for wood loft floors									
Add per square foot (of bin area) for wood bins									
Add for stable stall walls									
Deduct for Earth floor									

Adjust for quality grade from Schedule F

Barns and Sheds**Sound Value Guidelines**

Type-1	\$500	to	6200
Type-2	\$400	to	5600
Type-3	\$100	to	5900

1. Select the model width and length closest to the subject.
2. Select (or calculate) the square foot rate applicable to each of the two (2) areas immediately smaller than and larger than the subject.
3. Calculate the difference in the whole dollar value applicable to each of the areas selected in step #2.
4. Divide the result from step #3 by the difference in the areas used in step #2.
5. Apply the rate arrived at in step #4 to the difference in the area of the subject and the smaller area of the two (2) used in step #2.
6. Add the result from step #5 to the whole dollar value calculated for the smaller area in step #3 and round the result to the nearest ten dollars (\$10.00).

Note: For areas larger than those included in the table, calculate the additive value by following the same procedure (steps #1 to #6) for the two (2) largest representative areas provided.

Chicken, Duck, Turkey Barns

(Typically associated with floor type operations.)

Per square foot, average quality, 12' eaves height

Area	Rate	+/-2	Area	Rate	+/-2
2000	8.05	0.45	7000	5.65	0.30
2400	7.60	0.45	8000	5.40	0.30
2800	7.25	0.35	9000	5.25	0.20
3200	6.95	0.35	10000	5.10	0.20
3600	6.75	0.35	12000	5.00	0.20
4000	6.50	0.35	14000	4.85	0.20
4400	6.35	0.30	16000	4.70	0.20
4800	6.20	0.30	18000	4.55	0.20
5200	6.10	0.30	20000	4.45	0.20
5600	5.95	0.30	22000	4.40	0.20
6000	5.85	0.30	24000	4.30	0.15

Prices are for metal clad, wood or light metal framed buildings with earth floor, minimal lighting and mechanically operated ventilator upper side walls.

Add for lighting	0.20
Add for plumbing	0.20
Add for concrete floor	2.00
Add for roof insulation	0.35
Add for loft floor	3.50

Adjust for quality grade from Schedule F

SCHEDULE G.2 (continued)**Farm Buildings and Structures****Hog Confinement Facilities**

Per square foot, average quality, based on 8' eaves height

Area	Wood Frame Wood Siding	Pole Frame Metal Siding	Add for Slatted Floor	Add for Pits
600	17.35	14.50	3.65	3.20
700	16.85	14.15	3.65	3.15
800	16.40	13.85	3.45	3.05
900	16.05	13.60	3.30	2.85
1000	15.75	13.40	3.15	2.70
1200	15.25	13.10	3.15	2.55
1400	14.85	12.80	3.05	2.55
1600	14.50	12.60	3.00	2.55
1800	14.20	12.45	2.85	2.40
2000	14.00	12.30	2.80	2.40
2200	13.85	12.15	2.70	2.35
2400	13.60	12.10	2.70	2.20
2600	13.45	12.00	2.65	2.20
2800	13.30	11.85	2.65	2.10
3000	13.25	11.80	2.55	2.10
3500	12.95	11.65	2.55	2.10
4000	12.75	11.50	2.50	2.10
4500	12.60	11.40	2.40	2.05
5000	12.45	11.25	2.40	2.00
5500	12.30	11.20	2.40	2.00
6000	12.15	11.15	2.35	1.90
7000	12.00	11.05	2.20	1.90
7500	11.95	11.00	2.20	1.90
8000	11.85	11.00	2.20	1.85
9000	11.70	10.85	2.10	1.85
10000	11.55	10.85	2.10	1.85
11000	11.50	10.75	2.10	1.85
12000	11.40	10.70	2.10	1.85
13000	11.35	10.60	2.10	1.75
14000	11.25	10.60	2.10	1.75
15000	11.20	10.55	2.10	1.75
16000	11.20	10.55	2.10	1.75
17000	11.15	10.55	2.10	1.75
18000	11.05	10.45	2.05	1.70
19000	11.05	10.45	2.05	1.70
20000	11.00	10.45	2.05	1.70
& Over	10.90	10.40	2.00	1.60

Included for (deduct if not present):

Plumbing	0.45
Lighting	0.65
Concrete floor	2.00
Insulation	0.35
Walls per LF	
Wood siding, wood frame	38.85
Metal siding, pole frame	23.40

Use the twenty (20) year depreciation schedule.

NOTE: When adding for pits and slatted floors, the concrete floor price included in the base building becomes the concrete floor price in the pit area.

Lean-tos

Per square foot

	Average height				
	8'	10'	12'	14'	16'
Concrete floor	3.95	4.40	4.85	5.40	5.80
Earth floor	2.35	2.80	3.20	3.80	4.15

Veal Confinement Facilities

Price per square foot

Area	Cost	Area	Cost
500	20.00	9500	13.85
600	18.90	10000	13.85
700	18.15	11000	13.85
800	17.55	12000	13.75
900	17.05	13000	13.75
1000	16.75	14000	13.75
1500	15.65	15000	13.75
2000	15.15	16000	13.70
2500	14.85	17000	13.70
3000	14.55	18000	13.70
3500	14.40	19000	13.70
4000	14.35	20000	13.70
4500	14.25	21000	13.70
5000	14.20	22000	13.70
5500	14.15	23000	13.70
6000	14.15	24000	13.70
6500	14.05	25000	13.70
7000	14.05	26000	13.60
7500	13.90	27000	13.60
8000	13.90	28000	13.60
8500	13.90	29000	13.60
9000	13.85	30000	13.55

Included for (deduct if not present):

Plumbing	0.80
Lighting	0.65
Concrete floor	1.85
Insulation	0.75

Poultry Confinement Buildings

(Typically associated with cage type operations.)

Per square foot

Size	Area	Wood Siding Wood Frame	Metal Siding Wood Frame or Pole
20 x 400	8000	12.75	11.80
20 x 600	12000	12.60	11.70
20 x 800	16000	12.50	11.70
20 x 1000	20000	12.45	11.65
40 x 400	16000	10.90	10.30
40 x 600	24000	10.85	10.30
40 x 800	32000	10.85	10.30
40 x 1000	40000	10.75	10.25
60 x 400	24000	10.30	9.80
60 x 600	36000	10.30	9.80
60 x 800	48000	10.25	9.80
60 x 1000	60000	10.20	9.75

Included for (deduct if not present):

Insulation	---
Concrete floor	1.85
Plumbing	0.65
Electricity	0.65

Factor for high-rise construction:

16' to 18' eaves	120%
Factor for each upper story	75%

SCHEDULE G.2 (continued)**Farm Buildings and Structures****Frame Corn Crib**

Per square foot

FREE - STANDING TYPE

Size	Area	Wood Slat	Weld Wire
6 x 24	144	13.40	11.50
6 x 38	228	12.95	11.20
6 x 52	312	12.80	11.15
6 x 66	396	12.75	11.05
6 x 80	480	12.60	11.00

DRIVE - THRU TYPE

Size	Area	Wood Slat	Weld Wire
24 x 30	720	10.90	10.60
28 x 30	840	10.85	10.45
28 x 34	952	10.75	10.40
30 x 36	1080	10.60	10.30
30 x 40	1200	10.55	10.25

Add for storage bins over crib

Wood slat 3.15

Weld wire 1.90

Add for lighting 0.65

Sound value range \$ 100-\$ 700

Wire Corn Crib

Per item

Cylindrical wire mesh cribs with concrete base, steel frame and conical steel roof.

Per bushel (1 cubic foot = .80 bushels, or

1 bushel = 1.25 cubic feet) 1.10

Included for (deduct if not present):

Concrete floor slab per sq. ft. 1.60

Roof 220

Add per square foot of surface for metal skin 1.90

Sound value range 100-600

See the formula located under the grain bin schedule to calculate the number of bushels.

Trench & Bunker Silos

Per linear foot

Primarily used for corn & grass silage, the trench type below grade and the bunker type above grade, open ends, concrete and plank floor and side walls. (Both side walls are included in the linear foot rate).

	Depth or Height					
	10'	12'	16'	20'	25'	30'
Trench						
Earth 30' Wide	101	111	126	139	158	179
Plank 30' Wide	152	171	211	247	297	343
+/-1" Wide	3.30	3.65	4.10	4.60	5.25	6.00
Bunker						
Plank 30' Wide	126	142	186	218	291	338
+/-1" Wide	2.00	2.00	2.00	2.00	2.00	2.00

Feed Lots

Per square foot

Canopies 2.85

Concrete flat work 1.60

Slurry Tanks**IN-GROUND**

Round tanks	1.75	to	2.20 cu.ft.
Rectangular	1.90	to	2.65 cu.ft.
Plank cover, deduct			3.05 per SF
No cover, deduct			5.65 per SF

ABOVE GROUND

42 x 14	29000
42 x 19	35000
42 x 23	42000
62 x 14	42000
62 x 19	53000
62 x 23	66000
81 x 14	66000
81 x 19	81000
81 x 23	102000
101 x 14	83000
101 x 19	105000
101 x 23	116000

Use the twenty (20) year depreciation schedule.

Poultry Houses

Average quality, nonconfinement type

Area	Frame	C. B.
240	15.15	18.45
360	13.45	16.20
480	12.50	14.80
600	11.85	13.90
800	11.15	12.90
1000	10.60	12.20
1200	10.25	11.70
1400	9.95	11.35
1600	9.75	11.05
1800	9.60	10.75
2000	9.45	10.55
2200	9.30	10.40
2400	9.20	10.25
2600	9.10	10.10
2800	9.00	9.95
3000	8.95	9.90

Adjust for quality grade from Schedule F.

Sound value range 100-1800

Butler Low Moisture Silage Silos

Per item

24' x 58'	53000
27' x 59'	61200
36' x 69'	100400

Granaries

Per square foot, average quality

Size	Area	1 Story
		& Loft
24 x 36	864	11.25
26 x 36	936	11.00
28 x 36	1008	10.65
28 x 40	1120	10.45
30 x 40	1200	10.30
36 x 40	1440	10.00

Add for storage bins 2.05

Adjust for quality grade from Schedule F

Sound value range 100-900

SCHEDULE G.2 (continued)**Farm Buildings and Structures****Silos (continued)**

Per item, typical costs including floor slabs & foundation

Diameter & Height	Concrete		Masonry		Steel	
	Stave	Reinf	Tile/C.B.	Brick	Unlined	Glass Lined
36' x 60'	31,500	42,300	35,300	48,200	45,500	61,600
36' x 70'	36,000	46,800	39,200	53,900	50,700	71,200
36' x 80'	38,400	51,800	42,900	59,900	55,800	81,700
36' x 90'	41,400	56,800	46,600	65,900	60,900	92,200
36' x 100'	44,500	61,800	50,200	71,900	66,000	102,800
Deduct for no roof						
12'	900		18'	1,900	28'	3,500
14'	1,200		20'	2,300	30'	4,100
16'	1,500		24'	2,900	36'	4,700

Sound value range is \$ 100- \$ 5000

Steel Grain Bins

Per item, installed

Size Dia. x Hgt.	Capacity (Bushels)	Cost	Size Dia. x Hgt.	Capacity (Bushels)	Cost	Size Dia. x Hgt.	Capacity (Bushels)	Cost
15' x 7'4"	1,035	2,800	27' x 33'0"	15,115	19,700	48' x 58'8"	84,920	77,800
15' x 11'0"	1,555	3,300	27' x 40'4"	18,470	22,700	60' x 18'4"	41,460	36,600
15' x 14'8"	2,070	4,300	27' x 47'8"	21,830	27,800	60' x 25'8"	58,040	51,500
15' x 18'4"	2,590	4,900	30' x 14'8"	8,290	10,200	60' x 33'0"	74,640	66,300
18' x 11'0"	2,240	4,500	30' x 18'4"	10,365	11,700	60' x 40'4"	91,225	81,000
18' x 14'8"	2,985	4,900	30' x 22'0"	12,440	13,400	60' x 47'8"	107,805	98,700
18' x 18'4"	3,730	6,000	30' x 25'8"	14,515	15,700	60' x 55'0"	124,345	106,700
18' x 22'0"	4,480	7,200	30' x 33'0"	18,660	21,600	60' x 66'0"	149,215	125,000
18' x 25'8"	5,225	8,400	30' x 40'4"	22,805	24,100	60' x 77'0"	174,080	143,900
18' x 33'0"	6,720	12,700	30' x 47'8"	26,955	30,400	72' x 33'0"	107,435	95,600
18' x 40'4"	8,210	14,600	36' x 14'8"	11,935	13,400	72' x 40'4"	131,295	112,700
18' x 47'8"	9,705	17,200	36' x 18'4"	14,925	15,700	72' x 47'8"	155,190	130,000
21' x 11'0"	3,050	5,700	36' x 22'0"	17,915	18,200	72' x 55'0"	179,055	148,100
21' x 14'8"	4,060	6,500	36' x 25'8"	20,895	20,600	72' x 66'0"	214,865	173,100
21' x 18'4"	5,170	7,500	36' x 33'0"	26,870	30,400	72' x 77'0"	250,680	196,600
21' x 22'0"	6,095	9,400	36' x 40'4"	32,840	33,600	75' x 33'0"	116,575	100,100
21' x 25'8"	7,110	10,200	36' x 47'8"	38,815	39,800	75' x 40'4"	142,465	119,300
21' x 33'0"	9,145	14,700	36' x 58'8"	47,770	48,800	75' x 47'8"	168,395	139,200
21' x 40'4"	11,175	16,200	42' x 14'8"	16,255	17,700	75' x 55'0"	194,290	156,600
21' x 47'8"	13,205	21,200	42' x 18'4"	20,320	20,900	75' x 66'0"	233,145	182,900
24' x 11'0"	3,980	6,900	42' x 22'0"	24,385	24,400	75' x 77'0"	272,005	213,400
24' x 14'8"	5,310	7,700	42' x 25'8"	28,445	28,400	78' x 33'0"	126,085	108,200
24' x 18'4"	6,635	9,000	42' x 33'0"	36,575	39,000	78' x 40'4"	154,090	129,000
24' x 22'0"	7,960	10,900	42' x 40'4"	44,775	46,000	78' x 47'8"	182,135	150,600
24' x 25'8"	9,290	12,400	42' x 47'8"	52,980	52,900	78' x 55'0"	210,140	169,300
24' x 33'0"	11,945	15,200	42' x 58'8"	65,020	64,900	78' x 66'0"	252,170	197,800
24' x 40'4"	14,595	18,100	48' x 14'8"	21,225	23,400	78' x 77'0"	294,200	224,500
24' x 47'8"	17,250	21,200	48' x 18'4"	26,535	27,900	90' x 33'0"	167,865	138,800
27' x 11'0"	5,040	7,500	48' x 22'0"	31,850	33,600	90' x 40'4"	205,150	165,300
27' x 14'8"	6,715	8,700	48' x 25'8"	37,155	36,600	90' x 47'8"	242,490	190,200
27' x 18'4"	8,395	10,400	48' x 33'0"	47,770	47,200	90' x 55'0"	279,775	213,500
27' x 22'0"	10,075	11,700	48' x 40'4"	58,385	55,900	90' x 66'0"	335,730	256,200
27' x 25'8"	11,755	13,400	48' x 47'8"	68,995	65,900	90' x 77'0"	391,685	298,900

Use the twenty (20) year depreciation schedule.

To calculate the volume of a cylindrical bin:

- Find the area of the circular base - $(3.1415) \times R \times R$ (R =radius)
- Multiply the area of the base times the height of the storage bin.
This results in the cubic feet or volume of storage contained by that particular storage bin.
- You can convert the cubic feet of storage into the number of bushels by multiplying the cubic feet or volume of storage by .80
 $(3.1415) \times R \times R \times H \times .80$ =Number of Bushels

“2002 Guidelines”

Appendix F

Directions: Please insert the following amended pages. Please remove the pages that are designated *remove* in the “Table of Page Changes”.

GRAIN ELEVATOR DEPRECIATION CONSIDERATIONS

Grain elevators are special purpose structures and, with very few exceptions are rarely convertible into other uses. Therefore, the assessor must carefully estimate all forms of depreciation correctly. Table F-4 allows the assessor to determine the physical deterioration and normal obsolescence suffered by the grain elevator but does not account for abnormal obsolescence caused by such factors as excess storage capacity, lack of transportation facilities (major highways, railroads, or waterways), nor other types of inutilities caused by changes in the agricultural economy.

Besides the normal depreciation from Table F-4, the assessor must also determine the amount of abnormal obsolescence caused by factors such as these. The determination of the amount of abnormal obsolescence requires a comparative analysis of current operating data and the total licensed capacity. For example, a grain elevator has a total licensed capacity of 300,000 bushels. Over the last five years of operation, the elevator has stored an average of 240,000 bushels. Therefore it is suffering from abnormal functional obsolescence because, in the current market, it has 60,000 bushels of excess capacity.

The assessor should value the grain elevator by first calculating the replacement cost new of the structure. Taking the average number of bushels stored for the most recent five years and multiplying by the unit costs given in this manual accomplishes this. Replacement cost is preferred as opposed to reproduction cost because replacement cost estimates the cost of a physical structure with similar utility. This estimate of cost should be closely aligned with value-in-use. As discussed under Concepts of Cost in the *Introduction* to this manual, "Replacement cost eliminates the cost of obsolete materials, design, and building techniques. In so doing, most forms of functional obsolescence have been "cured" and do not have to be accounted for in the depreciation estimate." The assessor should then follow the steps outlined in this appendix for determining the normal depreciation and apply this depreciation percentage to the replacement cost new estimate.

The amount of abnormal obsolescence should be reviewed annually and adjusted if necessary.

“2002 Guidelines”

Appendix G

Directions: Please insert the following amended pages. Please remove the pages that are designated *remove* in the “Table of Page Changes”.

Appendix G

Commercial and Industrial Cost Schedules

SCHEDULE A.1 (continued)

GCM Base Prices (continued)

2															1		3	4	
Fire Resistant															Wood	Rein	F P		
Floor Level	Fin Type	Use Type	Flr Hgt	Wall Type	1	2	3	4	5	6	7	8	9	10	+1	Jst (-)	Conc (+)	Steel (+)	
First	FD	Country Club	12'	1	54.30	56.90	59.50	62.10	64.70	67.30	69.90	72.45	75.05	77.65	2.59	1.72	8.27	9.92	
				2	54.90	58.10	61.30	64.50	67.70	70.90	74.10	77.35	80.55	83.75	3.20	1.72	8.27	9.92	
		Funeral Home	12'	1	47.95	50.50	53.05	55.60	58.20	60.75	63.30	65.85	68.40	70.95	2.56	1.72	8.27	9.92	
				2	48.55	51.70	54.90	58.05	61.20	64.40	67.55	70.70	73.85	77.05	3.16	1.72	8.27	9.92	
		Nursing Home	10'	1	47.10	49.25	51.40	53.55	55.70	57.85	60.00	62.15	64.30	66.50	2.16	1.72	7.94	9.55	
				2	47.60	50.25	52.90	55.55	58.25	60.90	63.55	66.20	68.90	71.55	2.66	1.72	7.94	9.55	
		Hotel -- Motel Unit	10'	1	49.50	51.65	53.85	56.05	58.20	60.40	62.60	64.80	66.95	69.15	2.19	1.72	7.94	9.55	
				2	50.00	52.70	55.35	58.05	60.75	63.45	66.15	68.80	71.50	74.20	2.69	1.72	7.94	9.55	
		Apartment	10'	1	34.05	36.20	38.40	40.55	42.70	44.90	47.05	49.20	51.35	53.55	2.16	1.71	7.86	9.46	
				2	34.55	37.20	39.90	42.55	45.20	47.90	50.55	53.20	55.90	58.55	2.67	1.71	7.86	9.46	
Wall Hgt.	UF	+/-	1'	1	0.35	0.50	0.65	0.75	0.90	1.05	1.20	1.35	1.45	1.60	0.14	0.03	0.21	0.23	
				2	0.35	0.55	0.75	0.90	1.10	1.30	1.50	1.70	1.85	2.05	0.19	0.03	0.21	0.23	
	SF	+/-	1'	1	0.50	0.65	0.85	1.00	1.20	1.35	1.50	1.70	1.85	2.05	0.17	0.02	0.23	0.25	
				2	0.50	0.70	0.90	1.10	1.30	1.50	1.70	1.90	2.10	2.30	0.20	0.02	0.23	0.25	
	FO	+/-	1'	1	0.70	0.85	1.00	1.20	1.35	1.50	1.65	1.80	2.00	2.15	0.16	0.01	0.18	0.20	
				2	0.75	0.95	1.15	1.40	1.60	1.80	2.00	2.20	2.45	2.65	0.21	0.01	0.18	0.20	
	FD	+/-	1'	1	1.05	1.20	1.40	1.55	1.75	1.90	2.05	2.25	2.40	2.60	0.17	0.01	0.16	0.19	
				2	1.10	1.30	1.50	1.75	1.95	2.15	2.35	2.55	2.80	3.00	0.21	0.01	0.16	0.19	
	Upper	UF	Utility	12'	1	14.05	16.25	18.50	20.75	23.00	25.25	27.50	29.75	31.95	34.20	2.24	3.60	6.21	7.53
					2	14.60	17.35	20.15	22.95	25.75	28.55	31.35	34.15	36.90	39.70	2.79	3.60	6.21	7.53
Parking Garage			10'	1	16.80	18.05	19.30	20.60	21.85	23.10	24.35	25.65	26.90	28.15	1.26	4.90	5.26	6.54	
				2	17.25	18.95	20.65	22.40	24.10	25.80	27.55	29.25	30.95	32.65	1.71	4.90	5.26	6.54	
				4	15.80	16.10	16.40	16.70	17.00	17.30	17.60	17.90	18.20	18.45	0.29	4.90	5.26	6.54	
FO		Health Club ***	12'	1	46.45	48.40	50.40	52.35	54.30	56.30	58.25	60.20	62.15	64.15	1.96	5.45	6.41	7.95	
				2	47.05	49.60	52.20	54.75	57.30	59.85	62.45	65.00	67.55	70.10	2.56	5.45	6.41	7.95	
		General Retail	12'	1	27.40	29.80	32.20	34.60	37.00	39.40	41.80	44.15	46.55	48.95	2.39	3.67	6.01	7.60	
				2	28.00	31.00	33.95	36.95	39.90	42.85	45.85	48.80	51.80	54.75	2.97	3.67	6.01	7.60	
FD		Mall Shops	14'	1	32.85	35.75	38.70	41.60	44.50	47.45	50.35	53.30	56.20	59.15	2.92	3.67	6.33	7.97	
				2	33.40	36.85	40.30	43.75	47.25	50.70	54.15	57.60	61.10	64.55	3.46	3.67	6.33	7.97	
		Department Store	14'	1	44.85	47.15	49.45	51.80	54.10	56.45	58.75	61.05	63.40	65.70	2.32	5.27	6.39	8.04	
				2	45.50	48.50	51.50	54.50	57.50	60.50	63.50	66.50	69.50	72.50	3.00	5.27	6.39	8.04	
FD		Dinning/Lounge	12'	1	46.00	48.55	51.10	53.60	56.15	58.70	61.25	63.80	66.35	68.90	2.55	3.67	6.01	7.60	
				2	46.55	49.70	52.80	55.95	59.05	62.20	65.30	68.45	71.60	74.70	3.13	3.67	6.01	7.60	
		Hotel -- Motel Service	12'	1	48.60	51.20	53.80	56.45	59.05	61.65	64.25	66.85	69.50	72.10	2.61	3.98	6.47	8.01	
				2	49.20	52.45	55.65	58.85	62.10	65.30	68.50	71.70	74.95	78.15	3.22	3.98	6.47	8.01	
FD		General Office	12'	1	49.90	52.05	54.25	56.40	58.55	60.70	62.85	65.00	67.15	69.30	2.15	5.57	6.70	8.47	
				2	50.55	53.35	56.15	58.95	61.70	64.50	67.30	70.10	72.85	75.65	2.79	5.57	6.70	8.47	
		Medical Office	11'	1	52.85	55.25	57.65	60.05	62.45	64.85	67.25	69.70	72.10	74.50	2.41	4.00	6.57	8.34	
				2	53.40	56.40	59.40	62.40	65.40	68.40	71.40	74.40	77.40	80.40	3.00	4.00	6.57	8.34	
FD		Nursing Home	10'	1	43.60	45.65	47.75	49.80	51.85	53.90	56.00	58.05	60.10	62.15	2.06	3.98	6.13	7.64	
				2	44.10	46.70	49.25	51.80	54.40	56.95	59.50	62.10	64.65	67.25	2.57	3.98	6.13	7.64	
		Hotel -- Motel Unit	10'	1	46.00	48.10	50.20	52.30	54.40	56.45	58.55	60.65	62.75	64.85	2.09	3.98	6.13	7.64	
				2	46.50	49.10	51.70	54.30	56.90	59.50	62.10	64.70	67.30	69.90	2.60	3.98	6.13	7.64	
FD		Apartment	10'	1	30.45	32.55	34.60	36.70	38.75	40.85	42.90	45.00	47.05	49.15	2.07	3.94	6.58	8.06	
				2	30.75	33.15	35.50	37.85	40.20	42.55	44.95	47.30	49.65	52.00	2.36	3.94	6.58	8.06	
* Add to base price (1st floor) to account for roof deck parking															3.61				
** Adjust base price to account for balconies, per square foot of balcony area															23.11	1.53	2.15	4.29	
***Add per court -- racquetball																			
-- squash																			
1Add to base price (1st floor) to account for elevated floor construction															4.87	3.84	0.48	1.49	

1 These rates represent an amount of increased cost to elevate a floor over and above what is included in the model for a floor. For instance, most if not all of our first floor models, have included a concrete floor. These costs represent the increased cost to suspend (based on the framing types) a floor higher than the existing floor. An example of this type of entity would be a raised area in a department store, where a set of 3 or 4 steps is required to raise the customer onto a more specialized or exclusively priced area of the store. The raising of a floor over and above what is included in the models could occur in any of the GCM first floor models.

These rates are only applicable to the area that is raised within a structure. If less than 100% of the structure or building section includes this feature, then the appropriate rate is multiplied by the percentage of the building or section that has this feature to determine the applicable adjustment.

SCHEDULE A.3 (continued)**GCR Base Prices (continued)**

Floor Level	Fin Type	Use Type	Flr Hgt	Wall Type	1 Wood Joist										
					1	2	3	4	5	6	7	8	9	10	+1
First	FD	Motel Units	9'	1	37.40	38.90	40.35	41.85	43.30	44.80	46.30	47.75	49.25	50.75	1.48
				2	37.90	39.85	41.85	43.80	45.80	47.80	49.75	51.75	53.70	55.70	1.98
		Funeral Home	12'	1	44.10	46.05	47.95	49.85	51.75	53.65	55.55	57.45	59.35	61.30	1.91
				2	44.75	47.35	49.90	52.45	55.00	57.55	60.10	62.70	65.25	67.80	2.56
		Nursing Home	10'	1	49.75	51.35	52.95	54.55	56.15	57.75	59.35	60.95	62.55	64.15	1.60
				2	50.30	52.45	54.60	56.75	58.90	61.05	63.20	65.35	67.50	69.65	2.15
		Apartment	9'	1	29.30	30.75	32.25	33.75	35.20	36.70	38.20	39.65	41.15	42.65	1.48
				2	29.80	31.75	33.75	35.70	37.70	39.65	41.65	43.65	45.60	47.60	1.98
	Upper	Motel Service	12'	1	39.65	41.45	43.25	45.05	46.85	48.65	50.50	52.30	54.10	55.90	1.81
				2	40.25	42.75	45.20	47.65	50.10	52.55	55.00	57.45	59.90	62.35	2.45
		Dinning/Lounge	12'	1	40.65	42.40	44.20	46.00	47.80	49.55	51.35	53.15	54.95	56.75	1.79
				2	41.25	43.70	46.10	48.55	50.95	53.40	55.80	58.25	60.65	63.10	2.42
		Motel Units	9'	1	32.05	33.45	34.85	36.25	37.65	39.05	40.45	41.85	43.25	44.65	1.40
				2	32.55	34.40	36.30	38.20	40.05	41.95	43.85	45.75	47.60	49.50	1.89
		Apartment	9'	1	23.95	25.35	26.75	28.15	29.55	30.95	32.35	33.75	35.15	36.55	1.40
				2	24.40	26.30	28.20	30.10	31.95	33.85	35.75	37.65	39.50	41.40	1.89
		Nursing Home	10'	1	44.35	45.95	47.50	49.10	50.70	52.30	53.90	55.45	57.05	58.65	1.59
				2	44.90	47.00	49.15	51.30	53.45	55.60	57.70	59.85	62.00	64.15	2.14

SCHEDULE A.4**GCK Base Rates**

Light preengineered steel and pole framed buildings (used for C/I occupancies)

Per square foot, average quality, 12' eaves height

	Perimeter/Area Ratio										
	1	2	3	4	5	6	7	8	9	10	+1
Light metal/wood siding, pole frame	8.55	8.95	9.35	9.75	10.20	10.60	11.00	11.40	11.85	12.25	0.41
Add per P/A ratio:											
Exterior sheathing	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	0.10
Insulation	0.75	0.80	0.85	0.95	1.00	1.05	1.15	1.20	1.25	1.35	0.07
Steel girts and purlins	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	0.05
Aluminum siding and roofing	0.40	0.50	0.55	0.60	0.65	0.75	0.80	0.85	0.90	1.00	0.06
Interior liner (1)	1.45	1.60	1.80	1.95	2.15	2.30	2.45	2.65	2.80	3.00	0.17
Heavy gauge siding and roofing (2)	1.45	1.60	1.75	1.90	2.05	2.20	2.30	2.45	2.60	2.75	0.14
Plastic panel siding	0.35	0.75	1.10	1.45	1.80	2.20	2.55	2.90	3.30	3.65	0.36
Sandwich paneling	3.90	4.45	5.00	5.55	6.15	6.70	7.25	7.80	8.35	8.95	0.56
Interior finish (3)											
Unfinished occupancies (UF)	3.35	3.35	3.35	3.35	3.35	3.35	3.35	3.35	3.35	3.35	
Semi-finished occupancies (SF)	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.05	7.05	
Finished open occupancies (FO)	16.15	16.50	16.90	17.25	17.60	17.95	18.35	18.70	19.05	19.40	0.36
Finished divided occupancies (FD)	28.60	28.95	29.35	29.70	30.05	30.40	30.80	31.15	31.50	31.85	0.36
Add per square foot of floor area for frame variations:											
Steel post and beam	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	
Rigid steel frame construction	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.55	
Deduct per square foot of floor area for absence:											
Concrete floor	3.35	3.35	3.35	3.35	3.35	3.35	3.35	3.35	3.35	3.35	

Add or deduct 2% (against the total rate) per foot of wall height variation.

Deduct 2% (against the total rate) for low profile (1:12 or less pitch) roof construction.

Adjust for quality grade from Schedule F.

Note (1) Liner is included with manufactured sandwich paneling

Note (2) 24 to 20 gauge steel; .032" to .050" thick aluminum.

Note (3) Interior Components:	Walls/ LF	Flooring	Ceiling	Ptns&OF	Lighting	Heating	Add A/C	Sprk
Unfinished occupancies (UF)	----	----	----	0.80	1.55	1.00	1.90	6
Semi-finished occupancies (SF)	----	0.60	0.50	1.55	3.20	1.20	1.90	6
Finished open occupancies (FO)	36.10	2.35	2.10	4.40	4.60	2.35	2.25	4
Finished divided occupancies (FD)	36.10	3.35	2.75	12.35	6.20	3.60	5.10	3

SCHEDULE E**GC Special Features****Mezzanines**

Per square foot, including, soffit finish, lighting, heating and plumbing unless noted.

	Frame Type			
	1	2	3	4
Unfinished				
Light Util/Storage	8.30	11.95	12.50	13.45
Heavy Util/Storage	10.30	14.50	14.65	15.90
Semi - Finished				
Light Mfg	12.75	16.35	16.95	17.90
Heavy Mfg	14.75	18.95	19.05	20.30
Finished Open				
Retail	20.50	24.20	24.70	25.70
Lobby, Access Way	25.35	29.35	29.70	30.80
Office	26.60	30.55	30.95	32.00
Finished Divided				
Dinning/Lounge	31.75	35.45	35.95	36.95
Office	32.65	36.65	37.00	38.10

Add for air conditioning and sprinkler.

Mall Concourse Areas

Per square foot.

Costs include paving, ramps, stairs, lighting and typical permanent focal elements, and architectural treatment, such as built-in seating, planters, etc.

OPEN MALL

Open air pedestrian concourse areas, generally referred to as an arcade or courtyard.

COVERED MALL

Covered common areas, consisting of roof cover and open entrance areas. Minimal protection from weather conditions. Typical roof finishes include mansards or canopies. Apply costs to covered area only.

ENCLOSED MALL

Enclosed common concourse areas, completely climatized typical of modern shopping malls where concourse area is bordered on all sides by shops and stores.

Per S. F., average quality construction.

Type	Construction	Rate	
Open		7.30	
Covered	Wood Frame	23.10	
	Steel Frame	26.90	
	Reinforced Concrete	31.95	
	F.P. Steel Frame	38.15	
Enclosed		First	Upper
	Wood Frame	37.80	31.35
	Steel Frame	40.80	36.80
	Reinforced Concrete	48.50	42.70
	F.P. Steel Frame	49.95	44.35

*Additive for walls 3.25

Price basements from appropriate model in Schedule A. Adjust for quality grade from Schedule F in Appendix C.

NOTE: That the above rates are based on a zero (0) P/A ratio, add for walls by applying the additive rate to the subject P/A ratio, and adjusting the result to account for the percentage of walls priced with the shop enclosures. For example, a "T" shaped concourse area 60' x 200' and 60' x 100' x 20' high with shops 16' high would have a perimeter of 720 L/F and a P/A ratio of 4 (720 L/F / 18,000 SF) with 180 L/F of walls full height and 540 L/F clerestory walls 4' high. This amounts to an average of 40% wall coverage (.25 x 100% + .75 x 20%). The additive for walls would therefore be calculated as 4 x the additive rate x 40%.

Penthouses

Per square foot

ELEVATORS AND STAIRWELLS

	Area			
	50	75	100	150
Metal or Light Wood Frame	42.20	35.75	31.90	27.35
Concrete Block or Equal	82.80	69.55	61.65	52.30
Brick or Equal	96.90	81.05	71.65	60.45

MECHANICAL ROOMS

	Area									
	200	400	600	800	1000	1200	1400	1600	1800	2000
Metal or Light Wood Frame	24.60	19.45	17.20	15.80	14.90	14.20	13.65	13.25	12.90	12.60
Concrete Block or Equal	46.70	36.15	31.50	28.70	26.80	25.40	24.30	23.40	22.70	22.05
Brick or Equal	53.75	41.15	35.55	32.20	29.95	28.25	26.95	25.90	25.05	24.30

NOTE: Price larger structures off of the GCI utility/storage upper floor model.

SCHEDULE E (continued)**GC Special Features****Banking Features**

Cost per square foot of floor area, based on an average 8' ceiling height, exclusive of floor and doors but including lighting, ventilation, and interior finish.

Type	Low Cost	Average	Good
Money Vault	99.30	130.25	161.20
Record Storage	39.70	47.30	54.90

Add for money vault doors (thickness of steel plating w/o locking mechanism)

Thickness	Rectangular	Circular
2"	5500	---
3"	7900	---
4"	14600	---
6"	21000	---
8"	26500	96900
10"	32100	103700
12"	39700	110700
14"	44400	118600
16"	53700	126700

Add for record storage vault doors

1/2 hour fire rating	1300
1 hour fire rating	2600
2 hour fire rating	3000
3 hour fire rating	3200
4 hour fire rating	3300
6 hour fire rating	4200

DRIVE-IN TELLER BOOTHS

Per square foot including finish, lighting, heating, air conditioning (average quality construction) add for drive-in windows, adjust for quality grade from Schedule F in Appendix C.

Wall Hgt.	P/A Ratio							
	35.0	40.0	45.0	50.0	55.0	60.0	65.0	70.0
8'	93.45	101.95	110.45	118.95	127.45	135.95	144.45	152.95
9'	100.75	110.25	119.75	129.25	138.75	148.25	157.75	167.25
10'	108.00	118.50	129.00	139.50	150.00	160.50	171.00	181.50
Add per canopy, per square foot				18.10	28.70			

Atriums

Typical of those found in contemporary office buildings, hotels and high rise apartments

Equivalent No. Stories	Perimeter Area Ratio							
	0	1	2	3	4	5	6	+1
12'	1	61.45	63.45	65.45	67.45	69.45	71.45	73.45
22'	2	66.60	70.30	74.00	77.70	81.40	85.10	88.80
32'	3	71.75	77.15	82.55	87.95	93.35	98.75	104.15
42'	4	76.90	84.00	91.10	98.20	105.30	112.40	119.50
52'	5	82.05	90.85	99.65	108.45	117.25	126.05	134.85
62'	6	87.20	97.70	108.20	118.70	129.20	139.70	150.20
72'	7	92.35	104.55	116.75	128.95	141.15	153.35	165.55
82'	8	97.50	111.40	125.30	139.20	153.10	167.00	180.90

Add per

add'l floor	5.15	6.85	8.55	10.25	11.95	13.65	15.35	1.70
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Per square foot for average quality structural, glazed and fireproofed steel frame construction, adjust for variations in quality grade from Schedule F in Appendix C. It should be noted, however, that typical atrium construction is characterized by good quality materials, workmanship and features.

Sprinkler system is priced from Group 4 of the sprinkler schedule. Air conditioning in atrium areas is considered overflow from the main structure and no separate square foot pricing is required to adjust the atrium value.

NOTE: The zero (0) perimeter-to-area ratio is applicable to those areas that have no perimeter walls and therefore must not include an allowance for walls in the square foot rate. These areas are typically found in high rise atriums where structural walls forming the perimeter of concourse shops, offices, hotel units and other such occupancies should be valued as part of that space by applying the appropriate model rather than part of the atrium proper.

Drive-up/walk-up teller windows, each	9200
Vision window only, per station	1500
Night depositories, each	11200

Autotellers

Complete with receptacle box, pneumatic tube, and intercom, each	17300
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Tellervues

Complete with receptacle box, pneumatic tube, 2-way screen and intercom, each	41500
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NOTE: The pneumatic tube described above refers to in-ground permanent type construction.

ATM Enclosures, per square foot, average quality

# of ATM	w/o Lobby	w/Lobby
1	479.00	225.00
2	272.00	165.00

Add for canopy, per square foot 18

Adjust for quality grade from Schedule F in Appendix C.

SCHEDULE G (continued)**Yard Improvements****Mobile Home Parks**

General Specifications

EXCELLENT "A"

The excellent mobile home park provides deluxe accommodations for the largest single and double wide homes. It will have complete and varies recreational facilities of top quality and feature generous amounts of landscaping, sprinkler systems, etc.

GOOD "B"

The typical good park is one catering to the larger, permanent mobile home. It will accommodate a limited quantity of double wides and will feature complete recreational facilities. All utilities are underground and may include cable TV systems.

AVERAGE "C"

This type of park is built more for permanent occupancy and will have spaces to accommodate the manufactured home up to sixty (60) feet but few if, any, double wide versions. They will have utility buildings, office and possibly recreational facilities, electrical costs include underground service and telephone

to most sites as well as street lighting.

LOW COST "D"

Developed for transient or semi-permanent occupancy, these parks usually have car-drawn trailers up to forty-five feet (45) long. They feature limited planning and facilities and have sewer or septic system hook-ups and water, but not gas hook-ups, except to utility buildings and electrical service is overhead.

CHEAP "E"

Typical of sites developed in outlying rural areas where there is minimal or no building code enforcement. There will be close spacing and few facilities and are designed for smaller mobile homes. They feature water service to common hydrants with no trailer hook-ups.

COST PER SITE

	Quality Grade		A		B		C		D		E	
*Site Size (Sq. Ft.)	2700	--	5100	2000	--	4700	1700	--	3700	1000	--	2400
**Cost Range (\$)	9860	--	10910	7110	--	8320	4670	--	5770	3190	--	2410
Components of above cost												
Engineering	970	--	1080	720	--	840	480	--	590	330	--	240
Site Grading	930	--	1030	650	--	770	410	--	510	260	--	190
Street Paving	1440	--	1590	1060	--	1240	700	--	870	530	--	470
Patios and Walks	1240	--	1370	810	--	950	530	--	650	350	--	260
Sewers	940	--	1040	770	--	900	580	--	720	420	--	370
Water	920	--	1010	700	--	820	480	--	590	350	--	300
Electric	1540	--	1700	1140	--	1330	760	--	940	520	--	400
Gas	600	--	670	420	--	490	260	--	320	160	--	--
Misc. (landscaping, recreation, facilities, etc.)	1280	--	1420	840	--	980	470	--	580	270	--	180
Total	9860	--	10910	7110	--	8320	4670	--	5770	3190	--	2410

*Site size refers to the average of the actual site on which the mobile home is situated, exclusive of access drives, recreation areas, and service areas.

**The cost range per site includes all of the components shown above, naturally, if the sites being appraised do not include all of the above components, proper deductions should be made according to the above schedule.

NOTE: In appraising mobile home parks through the use of this schedule, complete the following steps:

1. Enter the number of sites and proper rate in the SUMMARY OF IMPROVEMENTS section and calculate replacement cost.

3. Appraise other structures (i.e. garages, community rooms, laundry buildings, etc.) from appropriate schedules.

2. Apply proper depreciation considering age and condition (use residential guidelines)

NOTE: This schedule is NOT to be used for recreational vehicle parks.